

## Year 5 Autumn Term Skills and Knowledge

At Moorside Primary School our approach to our teaching and learning is through a skill based curriculum. Below are the subjects and skills being taught in the autumn term:

### Science – Forces

#### ***Essential skills and knowledge***

- To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- To identify the effects of air resistance
- To identify air, water resistance and friction that act between moving surfaces
- To recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect

#### ***Communication skills***

- To report and present findings from enquiries and include conclusions, causal relationships and explanations of and a degree of trust in the results
- To report the above in oral and written forms such as displays and other presentations

#### ***Working together collaborative skills***

- To identify scientific evidence that has been used to support or refute ideas or arguments
- To work with others to carry out tests to answer questions

#### ***Problem solving***

- To explore different designs making a variety of parachutes and carrying out fair tests to determine which designs are the most effective
- To design and make products that use levers, pulleys, gears and or springs and explore their effects
- To explore resistance in water by making and testing boats of different shapes
- To explore the effect of friction or movement and find out how it slows or stops moving objects

#### ***Application of number***

- To present observations clearly using tables and bar charts
- To use a stop watch to measure time and record this on a line graph

#### ***Information Technology***

- To use secondary sources and recognize when they will be most useful to research ideas and begin to separate opinion from fact
- To research how scientists help to develop the theory of gravitation e.g. Galileo and Newton

### Science – Living things and their habitats

#### ***Essential skills and knowledge***

- To describe the differences in life cycles of a mammal, an amphibian, an insect and a bird
- To describe the life process of reproduction in some plants

#### ***Communication skills***

- To explain how pollination and fertilization occurs in plants

#### ***Application of number***

- When investigating growth, to choose and use standard metric units and their abbreviations when estimating, measuring and recording length, weight and capacity

#### ***Information Technology***

- To use various sources to research the work of scientists

### Computing - Programming

#### ***Programming and making things work with understanding***

- To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems
- To save documents and images into different format for different purposes
- To adapt and modify programs and add refinements
- To use simulations to explore patterns and relationships
- To make predictions about what might happen in a game program

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- To use sequence, selection and repetition in programs
- To use logical reasoning to explain how some simple algorithms work
- To use logical reason to detect and correct errors in algorithms and programs
- To recognise that problems should be broken into smaller parts in order to achieve a solution effectively
- To use if...then...
- To understand that logical reasoning enables the detection and then correction of errors
- To know the difference between algorithm and program
- To formulate questions accurately in order to solve problems

#### **Keeping safe**

- To use technology safely, respectfully and responsibly
- To know a range of ways to report concerns and inappropriate behaviour
- To know what appropriate and inappropriate use of the internet is
- To understand both rights and responsibilities when online
- To conduct a safe internet search and refine it for both speed and accuracy
- To use effective strategies to search with appropriate search engines

### **Physical Education**

#### **Gymnastics - Acrobatic Gymnastics - Developing skills**

- To perform combinations of actions that show clear levels, speeds and directions
- To perform actions, shapes and balances clearly, consistently and fluently

#### **Gymnastics - Making and applying**

- To repeat a longer sequence with extension, clear body shape and changes in direction
- To adapt sequences to include a partner or a small group

#### **Gymnastics - Physical and mental**

- To take more responsibility for my own warm-up
- To know how muscles work, how to stretch and how to do strengthening exercises

#### **Gymnastics - Evaluate and improve**

- To watch and comment on the quality of movements, shapes and balances
- To identify which aspects were performed accurately, fluently and clearly
- To suggest improvements to speed, direction and level in composition

#### **Gymnastics - Main progression points:**

- To show clear levels, speeds and directions and perform actions consistently
- To show extension, clear body shape and changes in direction in phrases with partner or small group (6-8 actions)

### **Net/wall - Cricket**

#### **Net/wall - Developing skills**

- To hit the ball with purpose, varying the speed, height and direction
- To explain what I am trying to do and why it is a good idea
- To spot the spaces in my opponent's court and try to hit the ball towards them
- To position myself well on court

#### **Net/wall - Making and applying**

- To play shots on both sides of the body and above my head
- To direct the ball reasonably well towards their opponent's court
- To show good backswing, follow through and feet positioning

#### **Net/wall - Physical and mental**

- To carry out warm-up activities carefully and thoroughly
- To give good explanations of how warm-up activities affect the body
- To know why warming up is important to help me play better
- To know the types of exercise I should concentrate on, e.g. speed and flexibility

#### **Net/wall - Evaluate and improve**

- To know what I am successful at and what I need to practise more
- To try things out and ask for help to perform better
- To work well with others, adapting my play to suit my own and others' strengths

#### **Net/wall - Main progression points:**



- To hit the ball with purpose, varying the speed, height and direction
- To direct the ball reasonably well towards their opponent's court

### **History – Ancient civilization – Ancient Baghdad**

#### ***Historical knowledge (constructing the past and sequencing the past)***

- To describe some features, events, people and themes from the past
- To talk or write about features, events, people and themes from the past and include some detail
- To sequence a few events, objects or pieces of information on a timeline
- To use some historical period terms as well as century, decade, BC/BCE, AD/CE

#### ***History concepts (change and development, cause and effect, significance and interpretations)***

- To point out some similarities and differences between aspects of life now and the life of people in the period being studied
- To describe some similarities and differences between people, events and beliefs in the period of history studied
- To pick out some reasons for and results of people's actions and events

#### ***Historical enquiry (planning and carrying out historical enquiry/using sources of evidence)***

- To compare different sources of evidence about a person, object, event or change in history
- To point out some similarities and differences linked to the above
- To suggest some reasons why there are different accounts and interpretations of the past
- To talk about some of the different ways that the past is recorded and/or represented
- To name some types of things which tell us about the past
- To present findings about past using speaking, writing, maths (data handling), ICT, drama and drawing skills
- In written work, to organise answers well and state conclusions
- To try to organize answers well and state conclusions
- To make good use of dates and historical terms

### **Geography – South America**

#### ***Location and place knowledge***

- To describe how change can lead to similarities between different places
- To justify own viewpoint or decision, and use new information to adapt own viewpoint
- To locate the world's countries
- To name many of the world's major rivers on maps
- To name and locate many of the world's major rivers on maps
- To name many of the world's most famous mountain regions on maps
- To name and locate many of the world's most famous mountain regions on maps
- To locate and name the main countries in South America on a world map and atlas
- To locate the world's countries, using maps to focus on Europe, North and South America concentrating on their environmental regions, key physical and human characteristics
- To identify the position and significance of latitude, longitude, Equator, Northern Hemisphere and Southern Hemisphere
- To identify the position and significance of the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle
- To demonstrate an understanding of geographical similarities and differences through study of human and physical geography of a region in a European country and a region within North or South America

#### ***Physical and human geography***

- To begin to understand geographical pattern
- To explain why many cities of the world are situated by rivers

#### ***Geographical skills and fieldwork***

- To use and understand simple scale
- To find possible answers to own geographical questions

### **Art and design – Henri Rousseau (artist)**

#### ***Developing, planning and communicating ideas***

- To plan accurate print design for a given criteria
- To understand the importance of preparing materials before working
- To produce work that can be both visual and tactile
- To have an increasing awareness of different kinds of art, craft and design
- To produce creative work, exploring my ideas and recording experiences
- To support decisions and choices

- To use inspiration from other cultures

**Working with tools, equipment, materials and components to make quality products**

- To use printing techniques/equipment with increasing accuracy

**Evaluating processes and products**

- To describe how/why techniques work
- To talk about work and things that other people have done

**Drawing and painting**

- To create a range of moods in paintings
- To express emotion through painting
- To express emotion through sketches
- To use a drawing to show movement
- To combine a range of colours, tones, tints and shades
- To get across feeling and emotions through work

**Printing and sketch books**

- To print using a number of colours
- To create a print design to meet a given criteria
- To print onto different materials
- To keep detailed notes and observations in note book

**Knowledge**

- To know about great artists, craft makers and designers
- To talk about their work and discuss materials and approaches used
- To research what critics say about some art examples
- To make comparisons giving reasons for decisions made
- To discuss and explore the various art galleries around the world and compare them to galleries in the UK

**Design and Technology – Food (British and South American food comparison)**

**Developing, planning and communicating ideas**

- To plan the order of work thinking ahead

**Cooking and nutrition**

- To describe how to be hygienic and safe including getting their food preparation area ready, and clearing up afterwards
- To present my product really well
- To understand and apply the principles of a healthy and varied diet
- To understand seasonality and know where and how a variety of ingredients are grown, reared and caught
- To use a variety of cooking equipment: scales, knives, utensils, etc
- To read and understand food labels
- To understand about nutritional principles such as a balanced diet, five-a-day and eating processed foods
- To work in a safe and hygienic way
- To use proportions when cooking, by doubling and halving recipes

**Music – John Williams**

**Elements of music (Listening and understanding)**

- **Texture:** understand types of harmony, i.e. blocks of sound, including clusters of notes and the use of chords as an accompaniment
- **Timbre:** identify families of instruments, and different ensemble combinations, e.g: jazz band, orchestra and choir

**Applying and understanding**

- To identify instruments within different families of instruments
- To identify composers intent in music heard and performed
- To develop an understanding of the history of music

**Controlling**

- To lead, take a solo or accompany
- To develop the ability to rehearse and present performances in independent groups, showing awareness of their own part in relation to others

**Creating**

- To begin to improvise in a variety of styles, using scales as a base
- To vary and refine ideas



- To develop ideas within musical structures

***Responding and reviewing elements of music***

- To compare and contrast music heard and performed with an awareness of the music's context and purpose
- To use a variety of art forms to respond to changes in character or mood and other elements of music with increased emphasis on changes in metre, textures and structures
- To express and justify ideas and opinions about music heard and performed using an appropriate and extended musical vocabulary
- To recognise how musical elements are used by composers to create different moods and effects

**RE**

**Autumn 1 RE: Islam and the five pillars**

**Autumn 2 RE: Origins of the Bible**

**Modern Foreign Languages – French**

***Oracy***

- To prepare and practice a simple script
- To understand and express simple opinions

***Literacy***

- To re-read frequently a variety of short texts

***Intellectual understanding***

- To recognise similarities and differences between places

**PSHE – Health and Well being**

- To recognise that they may experience conflicting emotions and when they might need to listen to, or overcome these
- To recognise how their increasing independence brings increased responsibility to keep themselves and others safe
- To know that bacteria and viruses can affect health and that following simple routines can reduce their spread
- To know how pressure to behave in unacceptable, unhealthy or risky ways can come from a variety of sources, including people they know and the media
- To recognise when they need help and to develop the skills to ask for help; to use basic techniques for resisting pressure to do something dangerous, unhealthy, that makes them uncomfortable or anxious or that they think is wrong
- To know the school rules about health and safety, basic emergency aid procedures, where and how to get help
- To know what is meant by the term 'habit' and why habits can be hard to change
- To know which, why and how, commonly available substances and drugs (including alcohol, tobacco and 'energy drinks') can damage their immediate and future health and safety; that some are restricted, and some are illegal to own, use and give to others
- To know strategies for keeping physically and emotionally safe including road safety (including cycle safety- the Bikeability programme), and safety in the environment (including rail, water and fire safety)
- To know strategies for keeping safe online; the importance of protecting personal information, including passwords, addresses and the distribution of images of themselves and others
- To know about people who are responsible for helping them stay healthy and safe; how they can help these people to keep them healthy and safe
- To know the responsible use of mobile phones: safe keeping (looking after it) and safe user habits (time limits, use of passcode, turning it off at night etc.)
- To know how to manage requests for images of themselves or others; what is and is not appropriate to ask for or share; who to talk to if they feel uncomfortable or are concerned by such a request